

ABSTRACT

A method of trimming a mesh representation of an object surface comprising a tessellated mesh of polygons. A trim curve is projected onto the mesh representation to determine the trim area. Polygons within or intersecting the trim area are removed, and new polygons are introduced to attach the trimmed mesh to the trim curve projection. Detail data is formed for vertices of polygons near the trim curve, representing information about the object surface not present in the trimmed mesh representation. The detail data is applied to the vertices, thereby refining their locations. Any polygons near the trim curve which are outside a prescribed tolerance of the object surface are subdivided. The steps of forming and applying the detail data followed by the step of subdividing are iteratively performed until the trimmed mesh representation is within a prescribed tolerance of the object surface.

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